

REPORT OF THE

STATE WATER COMMISSION

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



REPORT DOCUMENT NO. 169

COMMONWEALTH OF VIRGINIA

RICHMOND

2021

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Senator Scott A. Surovell, Vice-Chairman

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STATE WATER COMMISSION EXECUTIVE SUMMARY

Background and Deliberations

The State Water Commission (the Commission) is a 15-member legislative body established by statute that is charged with (i) studying all aspects of water supply and allocation problems in the Commonwealth, (ii) coordinating the legislative recommendations of all state entities that have responsibilities with respect to water supply and allocation issues, and (iii) annually reporting its findings and recommendations to the General Assembly and the Governor. In 2020, the Commission met once and heard testimony regarding Eastern Virginia groundwater resources, the Salt Management Strategy program, the HB 1036 Groundwater Trading Work Group, and microplastics.

Meeting of October 21, 2020

The Commission held its only meeting of the interim electronically on October 21, 2020. The meeting began with the election of Delegate David L. Bulova as chairman and of Senator Scott A. Surovell as vice-chairman. The agenda included presentations on (i) Eastern Virginia groundwater resources, (ii) the Salt Management Strategy program, (iii) the HB 1036 Groundwater Trading Work Group, and (iv) the potential implications of microplastics for aquatic and human health.

Eastern Virginia Groundwater Resources Update

David K. Paylor, Director, Department of Environmental Quality

Mr. Paylor provided an overview of the Potomac aquifer, an underground water resource that has experienced dropping head levels for decades. In an effort to reduce the rate of head loss, the Department of Environmental Quality (DEQ) has reissued permits over the last few years for the 14 facilities that make up 90 percent of permitted withdrawals. The new permits resulted in a 50 percent overall reduction in withdrawals, a reduction that would be sufficient to stabilize head loss if other conditions remained the same. Forty percent of the water withdrawn from the aquifer is below the threshold level for which a permit is required, however, and such unpermitted use is increasing the head loss in spite of the permit reductions. DEQ has seven test wells that monitor the aquifer, and six are showing a rebound. Mr. Paylor said that a need exists for a broader network of such test wells. He added that DEQ has been in contact with counterparts in Maryland regarding the state of the aquifer and is helping identify water uses in Maryland.

Salt Management Strategy

David K. Paylor, Director, Department of Environmental Quality

Mr. Paylor discussed the Salt Management Strategy (SaMS) program, which started several years ago in Northern Virginia and takes a proactive nonregulatory approach to minimizing the use of road salt in order to reduce the amount of salt that finds its way

into local streams. Freshwater salinity, which is especially high in winter, harms aquatic life and can affect public drinking water sources. The program involves more than 40 stakeholders, including the Department of Transportation, conservation groups, localities, and other interested parties. The group began meeting in 2018, has held 25 meetings, and is scheduled to conclude its work by February 2021. The program has developed a toolkit of best practices and has specifically avoided adopting a legislative approach to reducing the use of salt. The practices are voluntary, although certain localities can choose to incorporate them into their stormwater permitting process.

HB 1036 Groundwater Trading Work Group
Shannon Varner, Troutman Pepper and Mission H₂O

Mr. Varner provided an overview of the work carried out by the Groundwater Trading Work Group, which was created by HB 1036 (Hodges, 2018). The bill required the Department of Environmental Quality (DEQ) to convene a work group to (i) assist DEQ in developing an aquifer storage and recovery banking system for Eastern Virginia and (ii) study and identify the components of a potential groundwater trading program. The work group has created a draft legislative proposal that involves the creation of a groundwater storage credit in return for the injection of water into an underground aquifer. Mr. Varner stated that the proposal does not yet address certain issues, including technical concerns, raised by DEQ. One unresolved issue is the recovery factor, or the ratio of injections to withdrawals for a particular participant. In a short-term period of 36 months, the recoverable amount would be 100 percent of the injected amount, according to the proposal, while subsequent withdrawal amounts would drop by 20 percent per year. Other unresolved questions involve the size of the recovery zone, or the maximum distance from the injection site at which withdrawals will be allowed.

Microplastics: An Introductory Discussion of Potential Implications for Aquatic and Human Health
Marty Gary, Executive Secretary, Potomac River Fisheries Commission

Mr. Gary, a fisheries biologist, spoke about the rising prominence of plastic pollution, including visible plastic, microplastics, and nanoplastics. He reported on two particular concerns that emerged from a workshop of the Chesapeake Bay Program Scientific Technical Advisory Committee. One is the trophic transfer of microplastics, meaning the transfer of plastics upward through the food chain beginning with the consumption of plastic as food by zooplankton. The second is the intracellular transport of nanoplastics, meaning the crossing of cell membranes by plastics. Research on microplastics is still in its early stages, and he expects that researchers will be publishing detailed new information in the next few years.

Conclusion and Recommendations

The Commission did not make a formal recommendation to the General Assembly.

Additional information about the State Water Commission's activities is available through its website at <http://dls.virginia.gov/commissions/swc.htm>.

Respectfully submitted,

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